

REMARKS

Claims 1-20 are pending in this application. Claims 1, 5, 8-10, and 18 are amended. No new subject matter has been added. Claims 1-20 remain pending. Reconsideration of the claims is requested in light of the following remarks.

Claim Rejections - 35 USC 112

Claims 1-4 and 8-20 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

The applicant notes that although it is initially indicated that claims 1-4 and 8-20 are rejected for this reason, the Examiner's specific comments regarding "an amount of current," a "current substantially equal to a second amount of current," and a "generating means" are apparently applied only to claims 8-18. Since the Examiner's comments are directed toward the lack of a structure, it is believed that this rejection is applicable only to the apparatus claims 8-18 and 20, where claim 20 depends from claim 16. Claims 1-4 and 19 are method claims that are not implicated by the Examiner's comments regarding the lack of structure.

Regarding claims 8-17 and 20, the Examiner rejects claim 8 because it recites "an amount of current" without reciting a corresponding structure for generating a "current substantially equal to a second amount of current." However, the recited "an amount of current" is actually fully defined as "an amount of current substantially equal to the second amount of current *less the first amount of current*." Thus, the recited "amount of current" is defined in terms of the recited first and second amounts of current that are provided by a recited first and second current source, respectively. One of ordinary skill armed with a knowledge of Kirchoff's Current Law would understand how a recited "amount of current" that is "substantially equal to the second amount of current less the first amount of current" may be supplied to a device using the claimed circuit.

Regarding claim 18, the applicant notes that it recites "generating means" that is "capable of operating correctly", and not "generating means capable of operating the circuit correctly" as alleged by the Examiner. The applicant has discussed how the term "operating correctly" in this context means that enough headroom voltage exists across the current sources for them to operate correctly (see page 1, lines 14-24; page 3, lines 17-18). It is also

discussed how switching between the two transistors controls the amount of current passing through the diode, in turn creating headroom voltage (see page 3, line 11 – page 4, line 2).

Claims 1-4, 19, and 20 stand rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential steps. This rejection is respectfully traversed.

The Examiner's comments are directed toward allegedly omitted steps. Since claim 20 is not a method claim, it is believed that this rejection is applicable only to claims 1-4 and 19. Furthermore, it is believed that this rejection is properly characterized as a 35 USC § 112, *first paragraph*, rejection (lack of enablement). MPEP 2172.01, emphasis added.

With regard to claim 1, the Examiner alleges that the omitted essential step is the step of obtaining a headroom voltage. However, the applicant's specification adequately explains how the existing claim 1 limitations (providing a power supply..., selecting an amount of current from among at least two currents ..., and directing said selected amount of current to flow through said diode) operate to provide an adequate headroom voltage when using a low voltage power supply (see page 2, line 26 – page 4, line 2).

Furthermore, the applicant has indicated that the term “operating correctly” in the specification means that enough headroom voltage exists across the current sources for them to operate correctly (see page 1, lines 14-24; page 3, lines 17-18).

Furthermore, the applicant explains that a prior art method of solving the lack of headroom voltage in three-volt driver circuits is to provide alternate current (AC) coupling (page 1, lines 21-23). Claim 1 recites a method that provides a power supply voltage up to three volts and adequate headroom voltage without using AC coupling (emphasis added). Thus, this is a negative limitation. There is nothing inherently ambiguous or uncertain about a negative limitation, as long as the boundaries of the patent protection sought are set forth definitely, albeit negatively, the claim complies with the requirements of 35 U.S.C. § 112, second paragraph. MPEP 2173.05(i). Since not using AC coupling is a proper negative limitation that specifies what the invention doesn't do, from the enablement perspective (35 USC § 112, first paragraph) it follows that the negative limitation is not needed to explain how to make or how to use the invention. MPEP 2164.

Claim Rejections - 35 USC 102

Claims 1-20 are rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,883,910 to Link ('Link'). The applicant respectfully traverses this rejection.

With regard to claims 1 and 18, both claims recite the limitation of “without being connected to an alternating current coupling circuit.” The Examiner alleges that Link FIG. 4 (Q1, Q2, Ibias, Imod) discloses all elements of claims 1 and 18. The applicant notes that this portion of FIG. 4 is the same as the prior art circuit shown by Link FIG. 2. Link explains that the circuit of FIG. 2 *is used to AC couple* the output current from the collector of transistor Q1 to a semiconductor laser (column 1, lines 58-60; column 2, lines 37-41; emphasis added). Link further explains that a capacitor CAC and an inductor LAC are used in the AC coupling arrangement of FIG. 2 (column 1, lines 58-67). Link’s FIG. 2 is nothing more than the prior art AC coupling arrangement disclosed by the applicant (page 1, lines 21-24). The applicant teaches that the use of inductors and capacitors is one disadvantage of the AC coupling scheme.

Consequently, Link does not disclose the limitation of “without being connected to an alternating current coupling circuit. Claims 1 and 18 are not anticipated for at least this reason. Claims 2-4 and 19 are not anticipated by Link for at least the same reason as claim 1.

With regard to claim 5, it recites, *inter alia*, a differential switch for selecting an amount of current from at least two amounts of current depending upon the voltage of each of at least two inputs; said differential switch being formed from a pair of transistors. While Link FIG. 4 does show a pair of transistors Q1 and Q2, Link also discloses that the base voltages and the bias voltages of the transistors Q1 and Q2 are maintained at the same level during operation of the device (column 4, lines 13-20).

Consequently, Link’s transistor pair Q1 and Q2 do not function as a differential switch as recited in claim 5. Claim 5 is not anticipated by Link for at least this reason. Claims 6 and 7 are not anticipated by Link for at least the same reason as claim 5.

With regard to claim 8, it recites, *inter alia*, a second current source capable of generating a second amount of current connected to said second transistor. A glance at Link FIG. 2 reveals that it does not disclose a second current source connected to the second transistor as recited in claim 8.


Consequently, claim 8 is not anticipated by Link for at least this reason. Claims 9-17 and 20 are not anticipated by Link for at least the same reason as claim 8.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-20 of the application as amended is solicited. The Examiner is encouraged to telephone the

undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,


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